

**LTH** series

# 445 - 465W

**210R-48 N-TOPCon  
Dual-glass Bifacial Module**



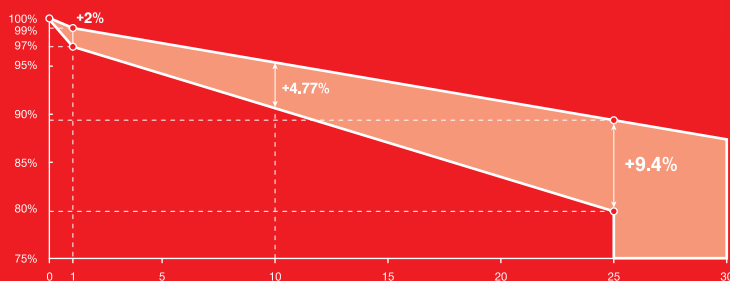
**12** years product  
workmanship warranty



**30** years linear power output  
warranty



**1%** 1st-year degradation  
**0.40%** annual degradation



Conventional LESSO Solar Module

## FEATURES AND BENEFITS



TOPCon technology, higher power generation.



High density packaging, improving energy density.



Even cloudy or foggy days, better weak illumination response.



Zero LID, increase power generation.



Better temperature coefficient, more power generation.



Higher power output, lower bos cost.



Multiple weather, resistance tests, wider applicability.



Double-sided generation, powerfully energy boost.

# LESSO 210R N-TOPCon Dual-glass Bifacial Module (48)



Power Range  
**445W ~ 465W**

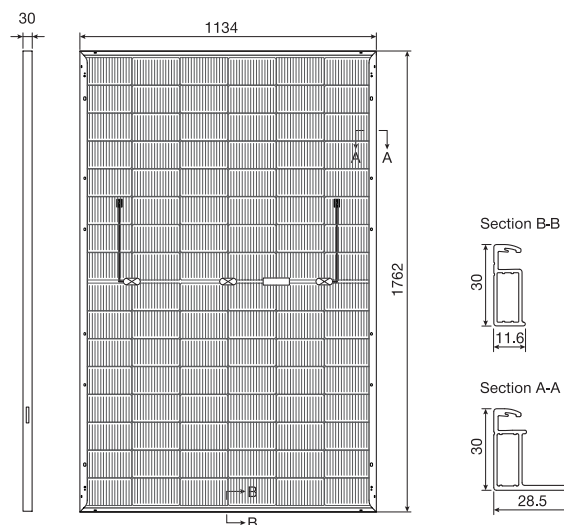


Maximum Efficiency  
**23.27%**

(Unit: mm)

## Structure Performance

|                        |                                                                                                                                                               |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Solar Cell Type        | 210R N-TOPCon Mono Cell (Half Cell)                                                                                                                           |
| Solar Cell Arrangement | 96pcs(6x16)                                                                                                                                                   |
| Module Dimension       | 1762×1134×30mm                                                                                                                                                |
| Weight                 | 24.7kg                                                                                                                                                        |
| Front Glass            | 2.0mm, highly transparent tempered glass with anti-reflective coating                                                                                         |
| Frame                  | Anodized Aluminum Alloy                                                                                                                                       |
| Junction Box           | IP68 rated                                                                                                                                                    |
| Cable                  | 4mm <sup>2</sup> , portrait <sup>400mm (+)</sup> / <sub>200mm (-)</sub> , landscape <sup>1400mm (+)</sup> / <sub>1400mm (-)</sub><br>Length can be customized |
| Diode Quantity         | 3 pcs                                                                                                                                                         |
| Front side / Rear side | 5400pa / 2400pa                                                                                                                                               |
| Connector              | MC4 Compatible                                                                                                                                                |
| Per Pallet             | 36pcs                                                                                                                                                         |
| Per Container(40'HQ)   | 936pcs                                                                                                                                                        |

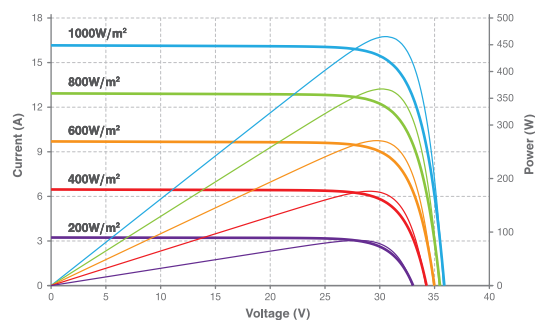


## Electrical Performance Parameters

| Model Type            |                      | 445C(HBD)48(210R) | 450C(HBD)48(210R) | 455C(HBD)48(210R) | 460C(HBD)48(210R) | 465C(HBD)48(210R) |
|-----------------------|----------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Nominal Max. Power    | P <sub>MAX</sub> (W) | 445               | 450               | 455               | 460               | 465               |
| Max. Power Voltage    | V <sub>MPP</sub> (V) | 30.05             | 30.19             | 30.34             | 30.48             | 30.63             |
| Max. Power Current    | I <sub>MPP</sub> (A) | 14.81             | 14.91             | 15.00             | 15.09             | 15.19             |
| Open Circuit Voltage  | V <sub>OC</sub> (V)  | 35.20             | 35.35             | 35.50             | 35.65             | 35.80             |
| Short Circuit Current | I <sub>SC</sub> (A)  | 15.83             | 15.92             | 16.00             | 16.08             | 16.16             |
| Module Efficiency     | (%)                  | 22.27             | 22.52             | 22.77             | 23.02             | 23.27             |

\* STC: Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C, Air Mass AM1.5; Power measurement tolerance ±3%.

## Current-Voltage & Power-Voltage Curve (465W)



## Bifacial Output-rearside Power Gain

|     | Maximum Power     | P <sub>MAX</sub> (W) | 467   | 473   | 478   | 483   | 488   |
|-----|-------------------|----------------------|-------|-------|-------|-------|-------|
| 5%  | Module Efficiency | (%)                  | 23.38 | 23.65 | 23.91 | 24.17 | 24.44 |
| 10% | Maximum Power     | P <sub>MAX</sub> (W) | 490   | 495   | 501   | 506   | 512   |
|     | Module Efficiency | (%)                  | 24.50 | 24.77 | 25.05 | 25.32 | 25.60 |
| 25% | Maximum Power     | P <sub>MAX</sub> (W) | 556   | 563   | 569   | 575   | 581   |
|     | Module Efficiency | (%)                  | 27.84 | 28.15 | 28.46 | 28.78 | 29.09 |

## Temperature Characteristics

|                                            |         |                                             |        |
|--------------------------------------------|---------|---------------------------------------------|--------|
| Nominal Module Operating Temperature       | 44±2°C  | Temperature Coefficient (V <sub>OC</sub> )  | -0.25% |
| Temperature Coefficient (I <sub>SC</sub> ) | +0.043% | Temperature Coefficient (P <sub>MAX</sub> ) | -0.30% |

## Maximum Parameters

|                              |           |
|------------------------------|-----------|
| Working Temperature          | -40~+85°C |
| Maximum System Voltage       | 1500V DC  |
| Nominal Maximum Fuse Current | 35A       |